
VII. *An Account of some remarkable Shells, found in Cavities of a calcareous Stone called by the Stone-masons Plymouth-rag. By William George Maton, M.D. V.P.L.S. &c. and the Rev. Thomas Rackett, A.M. F.L.S. &c. With some additional Observations relative to the Mytilus lithophagus, by Mr. James Sowerby, F.L.S.*

Read June 5, 1804.

THE specimen of the stone above alluded to, which was lately presented to the Linnean Society by Mr. James Sowerby, and which, from containing some shells that appeared to be of a doubtful species, was referred to us by the President for examination, is of a deep ashen hue, variegated with red, and contains a multitude of smooth regular cavities formed by *Mytilus lithophagus*. It was accidentally noticed by Mr. Sowerby, as it lay for the repair of a road, in the suburbs of London. Making inquiries among the stone-masons in his neighbourhood, he was informed by them that it was brought from Plymouth: but this they seem to have inferred from no other circumstance besides its *resemblance* to a stone procured from a ridge of rocks in the vicinity of that town; and it has not been possible to ascertain positively whence it first came. After we have given some account of the shells contained in it, there will appear a great improbability of its being procured from any part of our own island, (unless indeed from some spot on the coast, where it may have been left after it had served the purpose of ballast,) for but

one

one of these shells has hitherto had any legitimate claim to be considered as a native of Great Britain.

The species which principally attracted the notice of the members present, and which, from its singularity, was the cause of the fragment of stone being presented to the society by Mr. Sowerby, we find, after due examination, to be no other than the *Mytilus lithophagus*, of Linnæus,—a well known shell, and described very fully by many different authors, in consequence of its remarkable property of perforating rocks and other stony bodies. The circumstances which at first seemed to authorise its being considered a distinct species are two beak-like processes, (one from the extremity of each valve), apparently forming a part of the valves themselves, and crossing each other in some degree like the two mandibles of the bird called by Linnæus *Loxia curvirostra*, or *Cross-bill*. On separating the valves, however, these processes prove to be wholly external and adventitious, and the valves to be “*extremitatibus utrinque rotundatis*,” the words employed by Linnæus to characterize the true *Mytilus lithophagus*, which thus often acquires an inseparable calcareous coating, during the solvent process it employs for forming cavities in that kind of stone. The shell is very accurately figured with these artificial appendages in the 221st plate of the *Tableau Encyclopédique*, article *Vers Testacées* (fig. 8. a. 8. b.) One or two of the specimens, however, differ from the ordinary *Mytilus lithophagus* (the shape of which is pretty exactly cylindrical) in having a sort of angular protrusion on one side; this is a deviation from regularity of outline common among the *Mytili*, and does not appear to us to warrant the construction of a new species. It was noticed by Gualtieri, who, in figuring three specimens of *Mytilus lithophagus* (tab. 90. f. D.) has represented one of the form we allude to.

Some

Some of the fragments of stone in the possession of Mr. Sowerby contain another species of *Mytilus*, which evidently intruded itself into the cavities made by the former, for it does not fit those cavities, any more than the *Ostrea* hereafter to be described; this species is the *Mytilus bidens* (of the *Syst. Nat.*) figured in Chemnitz's *Conchilien Cabinet*, t. 83. f. 743. In some of the cavities are valves of *Ostrea Ehippium*, of a very diminutive size however, and to be considered as a variety of that species, for they do not assume the very curved form which gave rise to the trivial name. There are also, among these intruders into the habitations of *Mytilus lithophagus*, the *Mya dubia* of Pennant, and the *Arca reticulata* of Gmelin, besides three other species of *Testacea*, which we at present forbear to make any report upon, not having quite satisfied ourselves whether they be not hitherto undescribed. Suffice it to say, that one of them *approaches* to the *Ostrea Perna* of Linnæus; and there is a species of *Venus* (of a *cardoid* form), which is rather too much worn and damaged to admit of being accurately and perfectly described, but which, from appearing to form a cavity for itself in a manner similar to the other lithophagous *Testacea*, deserves to be particularly examined.

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*Additional Observations relative to the Mytilus lithophagus,
by Mr. Sowerby.*

I BEG leave to lay before the Linnean Society a description of the difference that exists between the *Mytilus lithophagus* and the shell of that kind which I lately had the honour to present to the Society.

Gmelin's description of *Mytilus lithophagus* is this:—"testa
nonnunquam

nonnunquam pollicem lata et ultra 3 longa, Maris Mediterranei fragili, Indici coriacea, striis transversis arcuatis exarata, nigra, badia aut virescente, intus opalino-cærulescente, albido-argentea, aut margaritacea." Linnæus does not mention these *striæ*, and he quotes Rumpfius's figure, which does not express them; but perhaps we may say it is scarcely worth quoting. I had not an immediate opportunity of examining his other quotations. Respecting the shells which I had the honour of presenting to the Society, Dr. Maton, V.P.L.S. and the Rev. Mr. Rackett, F.L.S. have been so good as to give their opinion, in a very learned and ingenious paper, which appears to show that those are varieties of *M. lithophagus*. We do not mean to contradict such great authority; but having the opportunity of comparing them by our usual aid of drawings, we avail ourselves of a vacant space in the Society's labours, leaving the whole to their better judgment.

Three or four years since, I found among some stones (perhaps ballast) at the Wapping-docks, a fragment of a calcareous rock. I detached a piece, to examine the nature of the perforations, and found that the *Mytilus lithophagus* (the striated one here figured) filled some of them. These stones appeared to have lain some time out of their proper element; for the animals had apparently been dissolved by putrefaction so long since, that no smell remained. The shells were mostly mutilated: however, upon diligent search, I found one or two sufficient to examine as to the species, and found them to agree with the description of Gmelin as above, and with his reference to the figure of our accurate countryman Lister. In the spring of 1804, some stones (seemingly ballast stones) were laid in Tothill-fields, where I found those which I presented to the Linnean Society. These, besides a striking appendage, seemingly made independent of

the shell and *epidermis*, are entirely destitute of *striæ*. We say no more on the subject at present, as the knowledge possessed by the two gentlemen mentioned above, renders them more able to add what is further necessary. They will no doubt settle it most ably, and I have promised to assist in making drawings to elucidate their former paper. If the Society should think it useful, I will add more finished drawings of the *Mytilus lithophagus striatus*, by which name I will now distinguish one. The annexed outlines are perhaps sufficient to explain the subject.

TAB. VI.

Fig. 2. *Mytilus lithophagus striatus*.

Fig. 3. A shell without the *striæ*, and with the calcareous appendages at the top.

Fig. 4. One of the same, with the calcareous appendage detached, to show that it has not the transverse *striæ*.

Fig. 5. The inside of the same.

Note by Dr. Maton.

THE *striæ* alluded to by Mr. Sowerby, and described in the *Systema Naturæ*, by Gmelin, did not escape the attention of Linnæus, who, in his description of *Mytilus lithophagus*, in the *Museum Ludovicæ Ulricæ Reginae*, makes use of the following words, viz. "*oblique dimidiato transversim striata*." These words apply to the striated appearance, much more precisely than his editor's, and indeed are as aptly descriptive of it as possible, which will be discovered by comparing them with Mr. Sowerby's figure

figure (2). The *striæ*, however, do not form any part of the *specific characters*, as given either by Linnæus, or by Gmelin, and do not therefore seem to us to warrant any other scientific distinction being founded on their absence than that of a *variety*, especially as in other particulars all the specimens figured by Mr. Sowerby closely correspond.